



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/349,347	07/07/1999	CATHERINE ROSENBERG	585-1003	6531

7590 07/17/2003

WILLIAM M. LEE, JR.
BARNES AND THORNBURG
P.O. BOX 2786
CHICAGO, IL 60690-2786

EXAMINER

ABELSON, RONALD B

ART UNIT	PAPER NUMBER
----------	--------------

2666

DATE MAILED: 07/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

1, 13, 23

Office Action Summary

Application No.

09/349,347

Applicant(s)

ROSENBERG ET AL.

Examiner

Ronald Abelson

Art Unit

2666

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 and 23-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20,21,42 and 43 is/are allowed.
- 6) ☒ Claim(s) 1-6,13,19,23-28,35,39 and 41 is/are rejected.
- 7) ☒ Claim(s) 7-12,14-18,29-34,36-38 and 40 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 July 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Claim Rejections - 35 USC § 102

1. Claims 1-6, 13, 19, 23-28, 35, 39, and 41 are rejected under 35 U.S.C. 102(e) as being anticipated by Fan (US 6,324,165).

Regarding claims 1, 13, and 23, Fan teaches a method and apparatus for an integrated CAC and BoD system for allocating the resource of a common medium uplink of a multiple access asynchronous network segment (fig. 3). The BoD is integrated within the input and output modules (fig. 3 Dynamic rate based queue scheduler).

The CAC is arranged to accept or deny requests for new virtual connections (VCs) on the network segment (col. 2 lines 17-19) and allocates a static resource to all virtual connections or grouping of VCs accepted by the CAC (CBR, VBR, col. 9 lines 3-7). The examiner corresponds the applicant's static resource with the resources such as bandwidth that are guaranteed in Fan.

The BoD is arranged to allocate dynamic resource on a request basis during an established VC connection and comprises means for allocating dynamic resource in such a way that all VCs or groupings of VCs requesting dynamic resource are dynamically allocated request dynamic resource

Art Unit: 2666

(DRC scheduling, distribution of unused bandwidth, assigned dynamically, col. 9 lines 44-51) up to at least the guaranteed dynamic resource which has been booked for them by the CAC (guarantee the minimum rate, col. 9 lines 44-46).

Regarding the limitation 'allocate dynamic resource on a request basis', the examiner maintains that the arrival of cells initiates the request.

Regarding claims 13 and 35, in addition to the limitations previously listed, when the requested resource from the VC or group of VCs is less than or equal to the booked dynamic resource for the VC or group of VCs, the BoD allocates the VC or group of VCs all of the requested resource and when the requested resource from the VC or group of VCs is greater than the booked dynamic resource for the VC or group of VCs, the BoD allocates the VC or group of VCs a share of the remainder of the requested resource, from the remaining resource capacity of the common medium uplink (unused bandwidth, minimum rates plus a fair share, col. 9 lines 46-55).

Art Unit: 2666

Regarding claims 19 and 41, the means for allocating static resource in the CAC and the means for allocating dynamic resource in the BoD are constrained to allocate resource in such a way that traffic on the common medium access uplink is shaped by the integrated CAC and BoD resource allocation system (fig. 3: CAC, Dynamic rate based queue scheduler, col. 9 lines 11-14, 39-46).

Regarding claim 23, in addition to the limitations previously listed, as previously stated the system booking dynamic resource to the VCs that require guaranteed dynamic resource on a per VC or per group of VCs basis and the system allocating dynamic resource to VCs or to groupings of VCs requesting dynamic resource during an established VC in such a way that all VCs or groupings of VCs requesting dynamic resource are dynamically allocated requested resource dynamic resource up to at least the guaranteed dynamic resource which has been booked for them by the CAC (unused bandwidth, minimum rates plus a fair share, col. 9 lines 46-55). Regarding the limitation that these functions are performed by the CAC, the examiner maintains the CAC (fig. 3 box 33) and Dynamic rate based queue scheduler

Art Unit: 2666

(fig. 3) are integrated software modules within the switch (col. 9 lines 20-22).

Regarding claims 2 and 26, the groupings of VCs are within the same subscriber access unit (SAU) or terminal (fig. 3: CBR, RT_VBR, ABR, UBR).

Regarding claims 3 and 24, the means for allocating static resource in the CAC allocates static resource to a VC when a VC is set up for the duration of the connection associated with the VC (required bandwidth for each connection, col. 9 lines 14-20).

Regarding claims 4 and 25, system books dynamic resource and reserves booked dynamic resource to a VC when a VC is set up for the duration of the connection associated with the VC (minimum rate for a non-real-time queue, col. 9 lines 39-55). Regarding the limitation that these functions are performed by the CAC, the examiner maintains the CAC (fig. 3 box 33) and Dynamic rate based queue scheduler (fig. 3) are integrated software modules within the switch (col. 9 lines 20-22).

Art Unit: 2666

Regarding claims 5 and 27, wherein the means for allocating static resource in the CAC allocates static resource to a group of VCs and changes the amount of static resource allocated to a group of VCs when new connections are set up or connections are released within the group (computes the bandwidth required, col. 9 lines 11-14)

Regarding claims 6 and 28, the means for booking dynamic resource in the CAC books dynamic resource to a group of VCs and changes the amount of booked resource allocated to a group of VCs when new connections are set up or connections are released within the group (preferably, these rates are assigned dynamically, col. 9 lines 39-55). Regarding the limitation that these functions are performed by the CAC, the examiner maintains the CAC (fig. 3 box 33) and Dynamic rate based queue scheduler (fig. 3) are integrated software modules within the switch (col. 9 lines 20-22).

Allowable Subject Matter

2. Claims 20-21 and 42-43 allowed.
3. Claims 7-12, 14-18, 29-34, 36-38, and 40 objected to as being dependent upon a rejected base claim, but would be

allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. The following is a statement of reasons for the indication of allowable subject matter.

Regarding claims 17, 20, 39, 40, and 42, nothing in the prior art of the record teaches or fairly suggests filling out an allocation table by having the CAC allocate static resources and BoD allocate dynamic resources, in combination with the other limitations listed in the claim.

Regarding claims 7, 8, 29, 30, nothing in the prior art of the record teaches or fairly suggests the specific equation for allocating bandwidth, in combination with the other limitations listed in the claims.

Regarding claims 9-12, 31-34, 40, nothing in the prior art of the record teaches or fairly suggests allocating resources on a periodic basis, in combination with the other limitations listed in the claim.

Regarding claims 14, 16, 36, 38, nothing in the prior art of the record teaches or fairly suggests allocating dynamic resources by maximizing the sum of the natural logarithms, in combination with the other limitations listed in the claims.

Art Unit: 2666

Regarding claims 15, 37, nothing in the prior art of the record teaches or fairly suggests allocating dynamic resources by maximizing the product of all the BEs, in combination with the other limitations listed in the claim.

Response to Arguments

5. Applicant's arguments, filed 5/19/2003, with respect to amended independent claim(s) 1, 13, and 23 under 35 USC 102 have been fully considered and are persuasive. However, a new search was performed and a new ground(s) of rejection is made in view of Fan.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the

Art Unit: 2666

THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronald Abelson whose telephone number is (703) 306-5622. The examiner can normally be reached on M-F.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (703) 308-5463. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-9600.


Application/Control Number: 09/349,347

Page 10

Art Unit: 2666


Ronald Abelson
Examiner
Art Unit 2666

July 2, 2003


KINGSTON
PATENT EXAMINER